

- Good Morning
- I'm Aaron Mason, I'm here to talk to you about the Survey Request Form & follow-up communication between designers and Survey

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A little bit about me:

- 5 years at a Bozeman surveying firm.
 - Boundary survey/Subdivision design & layout/construction surveying
- Spent a lot of time as a surveyor fixing engineers "mistakes", so I thought "I bet I could do that".
- Bachelor Degree from MSU in Civil Engineering, Minor in Land Surveying.
- MSU/MDT Design Unit
- 3 years in Helena - Road Design (Missoula District)

- So why was I given the opportunity to give this class
- I have worked on both sides of the fence:
Surveying/Engineering
- I spent 5 years with a surveying firm in Bozeman, and spent so much time fixing engineers "mistakes" at a certain point I decided I think I could be a pretty good engineer.
- At 37 years old I earned a degree in Civil Engineering with a Minor in Land Surveying from MSU
- While at MSU, I was hired to work @ MSU/MDT Design Unit
- When I graduated I was then hired on here in Helena in Road Design working for Bill Squires, Missoula District, crew

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Lessons I have learned from my time in MDT Road Design

(not always the easy way):

- We need a solution more than we need to complain about the problem.
- No design happens in a vacuum.
- Road design is extremely iterative, be prepared for things to change.
(... and then possibly change back to what you originally proposed)

- So before I really get into the presentation I would like to set some groundwork with a few key lessons I have learned here at MDT, usually the hard way.
- This first point really applies to everything in life, “We always need a solution more than we need to complain a problem” – in a way that why we have conferences and training like this
- Secondly, projects and designs are produced by a TEAM, everyone has some level of ownership and input, designs do not happen in a vacuum
- Lastly, expect change, and then possibly for things to change back to what you originally proposed. Don't fall in love with one idea, stay flexible.

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"The single biggest problem in communication is the illusion that it has taken place."

- G. Bernard Shaw

- So this presentation is supposed to be about the survey request form, but the reality is that it is really about communication.
- This quote really made me think how people often mistake a report or a request form as communication, they are documentation not COMMUNICATION.

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What is effective communication? :

- Communication is not what you say, but what a listener understands.
- Effective communication could be simply defined as shared understanding.
- Most importantly effective communication is a two-way process.

- Throughout this presentation I will be using the phrase “effective communication” so I better provide a definition
- [Read and Highlight slide points]
- Why is effective communication so important?
- A recent national study found that 86% of employees cited a lack of collaboration and ineffective communication for workplace failures.
- I actually believe that might actually be a little low

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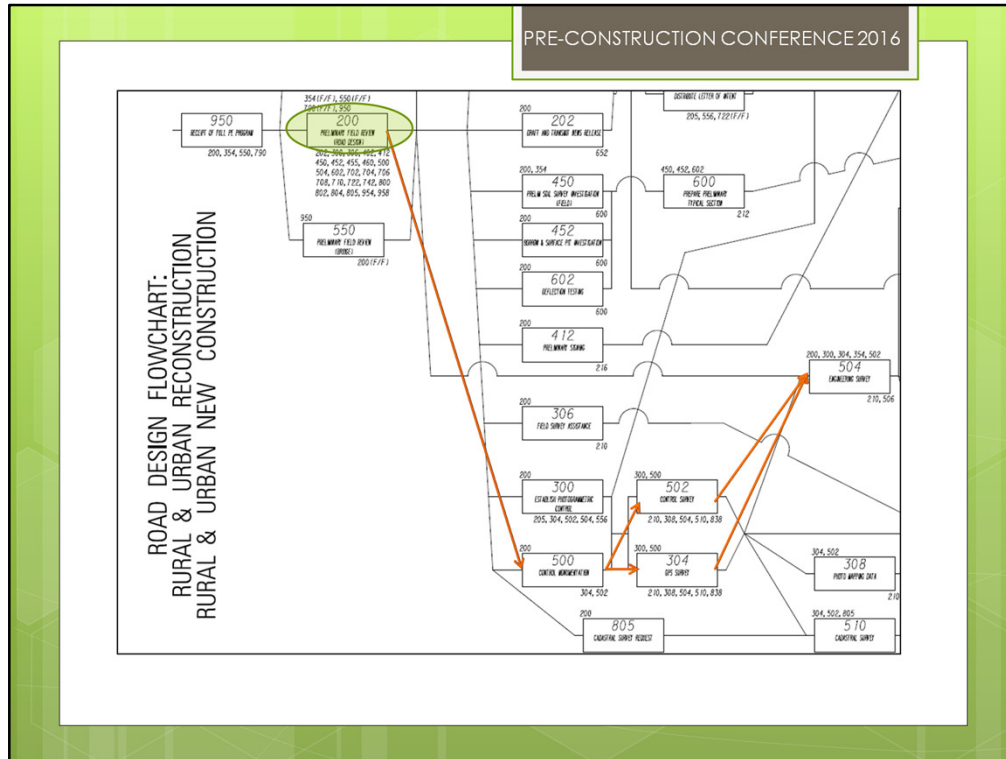
Purpose:

- Completing the Survey Request Form
 - **Initiation** of dialog between designer and Surveying
 - Focus on Engineering Survey request from Road Design standpoint – my experience
- Importance of effective communication
 - Designer/Surveying
- Limiting need for multiple pickup surveys
 - Spending more time up front preparing request
 - Did I mention communication?

- With the groundwork set my purpose here today is:
- 1) Process of completing the survey request form
 - This is truly the initiation of the dialog between a designer and survey
 - As a note I will be using the word designer to describe Project Managers, Engineering Specialists, Designers or anyone from any department who is actually making a survey request.
 - I will be approaching this from my experiences in Road Design
- 2) Emphasize the importance of effective communication
- 3) And Finally, as a goal, we should really all be trying to limit the need for additional pickup surveys. This can be aided by making sure we spend the necessary time up front preparing the request.

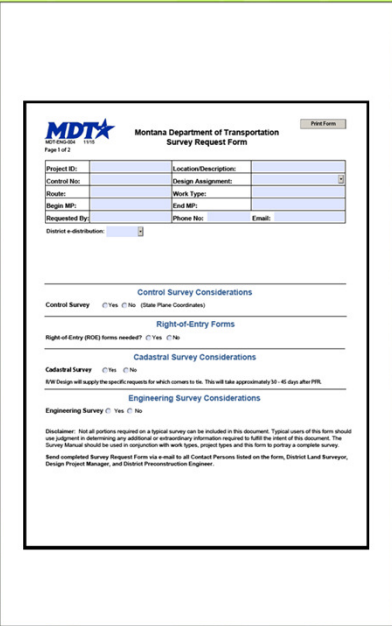
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- Oh yeah... Did I mention communication



- This is a small portion of the Road Design flowchart for a reconstruction project.
- There is no exclusive activity or activity description that includes the direction as to when you prepare an initial survey request
- CLICK
- So when do we prepare a request...
Activity 200: Preliminary Field Review.

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- ACTIVITY 200 – PRELIMINARY FIELD REVIEW (PFR)
- Survey request should be prepared & sent out concurrently with the PFR Report.
- Provide link/copy of PFR Report with Survey Request Form.
- Important to get all involved parties on the same page early in the process.
 - Road Design, Surveying, Bridge, Hydraulics, Pavement Design, Safety, Etc...

- There is important information in a PFR Report that can assist survey in completing their work, such as a proposed scope of work.
- So a PFR Report should be included with an initial survey request
- For many reasons it is important to get all of the members of a design team involved in the process early.
- Early input can prevent late game frustrations, you never know if Hydraulics, Utilities, or Geotech for example might end up really driving a design.
- From a survey request standpoint having inputs from the other departments can help you cater your request to ensure special areas are surveyed early.

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Survey Request Form

-Filling out the header

Project ID:		Location/Description:	
Control No:		Design Assignment:	Missoula - Helena
Route:		Work Type:	
Begin MP:		End MP:	
Requested By:		Phone No:	Email:

District e-distribution: Missoula

Bryce Larsen, Photogrammetry	William Weber, Helena Survey
Mark Roedel, Survey	Maureen Walsh, District R/W Supervisor
Suzan Foley, Right-of-Way Design	Robert Vosen, District Construction Engineer
KC Yahvah, Hydraulics	Shane Stack, District Preconstruction Engineer

- o Most information needed included in PFR Report (match info available on oracle)
- o The "Requested By:" info should be the contact person from Road Design (i.e. project manager/design supervisor/designer)
- o Begin/End MP for survey can be obtained on MDT Spatial Data Map (MDT GIS), as-builts, or from planning (Marisa Mailand).

- Lets spend a little time looking at the actual form
- ...and even if you don't actually complete these forms yourself it's good exposure. And you never know when you might become the new Road Design Area Engineer for the Butte District.
- So, filling out the header, most of the information for the header can come directly from the PRF Report.
- The distribution list and contact persons in other portions of the request are auto populated based on the selection of design assignment and district.

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PRE-CONSTRUCTION CONFERENCE 2016

Survey Request Form

Control Survey Considerations

Control Survey ☒ Yes ☐ No (State Plane Coordinates)

Contact Person (Helena Survey):

Contact Person:
 A control survey is required for basically every project (Road Design).

Details:

Right-of-Entry Forms

Right-of-Entry (ROE) forms needed? ☒ Yes ☐ No

Right-of-Entry forms to be obtained by:

Contact Person:
 ROE required if requesting survey outside of R/W. Be realistic with anticipated construction limits.

Contact District R/W Supervisor for a list of landowner information if needed. Survey crew may coordinate with District R/W to secure ROE forms if more expedient. Completed right-of-entry forms to be scanned and posted on DMS by survey crew using ROE designation. Send original right-of-entry forms to Shane Stack, District Preconstruction Engineer. Signed right-of-entry forms are to be kept in the District Project Files.

Cadastral Survey Considerations

Cadastral Survey ☒ Yes ☐ No

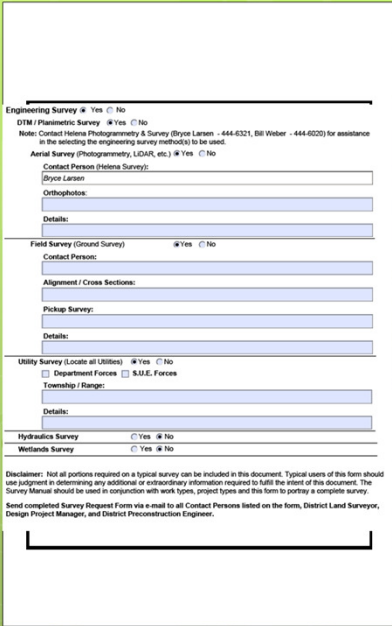
R/W Design will supply the specific requests for which corners to tie. This will take approximately 30 - 45 days after PFR.

Contact Person :
 Cadastral Survey is needed if R/W acquisition is anticipated.

Details:

- The form is designed so as you answer “yes” in a given section it expands for the additional needed information.
- The contact persons in these areas is what was auto-populated from the design assignment selection
- The next sections are:
 - 1) Control survey which is basically required on every Road Design project needing a survey.
 - 2) Right of Entry Forms, which is required if requesting any survey outside of R/W, and remember, be realistic with what you are anticipating the construction limits to be.
 - 3) Cadastral Survey, again if R/W acquisition is anticipated

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Engineering Survey ☒ Yes ☐ No

DTM / Planimetric Survey ☒ Yes ☐ No
Note: Contact Helena Photogrammetry & Survey (Byron Larsen - 444-6321, Bill Weber - 444-6020) for assistance in selecting the engineering survey method(s) to be used.

Aerial Survey (Photogrammetry, LIDAR, etc.) ☒ Yes ☐ No
Contact Person (Helena Survey):
 (Byron Larsen)
 Orthophotos:
 Details:

Field Survey (Ground Survey) ☒ Yes ☐ No
Contact Person:
 Alignment / Cross Sections:
 Pickup Survey:
 Details:

Utility Survey (Locate all Utilities) ☒ Yes ☐ No
☐ Department Forces ☐ S.D.E. Forces
 Township / Range:
 Details:

Hydraulics Survey ☐ Yes ☒ No
Wetlands Survey ☐ Yes ☒ No

Disclaimer: Not all portions required on a typical survey can be included in this document. Typical users of this form should use judgment in determining any additional or extraordinary information required to fulfill the intent of this document. The Survey Manual should be used in conjunction with work types, project types and this form to portray a complete survey. Send completed Survey Request Form via e-mail to all Contact Persons listed on the form, District Land Surveyor, Design Project Manager, and District Preconstruction Engineer.

PRE-CONSTRUCTION CONFERENCE 2016

- Engineering Survey Considerations
- DTM / Planimetric Survey
 - Aerial Survey
- Field Survey (Ground Survey)
 - Traditional Survey Methods
 - Additional Pickup Survey
- Utility Survey
- Hydraulics Survey
 - Drainage Survey
 - Bridge Survey
 - Irrigation Survey
 - Urban Survey
- Wetlands Survey
 - Stand-Alone Wetland Mitigation

- The next main Section is the Engineering Survey Consideration, which expands into:
 - DTM/Planimetric Survey – Aerial Survey
 - Field Survey –
 - Traditional field survey and additional pickup surveys
 - Utility Survey
 - Hydraulics Survey –
 - Wetlands Survey
 - Only for stand alone Wetland Mitigation projects

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PRE-CONSTRUCTION CONFERENCE 2016

Survey Request Form

-Engineering Survey
-DTM / Planimetric Survey

Engineering Survey Considerations

Engineering Survey ☒ Yes ☐ No
DTM / Planimetric Survey ☒ Yes ☐ No
Note: Contact Helena Photogrammetry & Survey (Bryce Larsen - 444-6321, Bill Weber - 444-6020) for assistance in the selecting the engineering survey method(s) to be used.
Aerial Survey (Photogrammetry, LiDAR, etc.) ☒ Yes ☐ No

Contact Person (Helena Survey):
Bryce Larsen

Orthophotos:

Details:

- So based on my experiences, I would like to focus in on the aerial survey requests and just provide some reminders...

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Survey Request Form

-Aerial Survey Reminders

- 2 flight seasons: Mid-March & Late Sept. – Late Oct.
 - 30 degree sun angle preferred
 - Bryce usually sends advanced reminder, but keep seasons in mind for scheduling
- Photogrammetry vs. ground survey
 - Obvious problems in timbered areas
 - \$29/acre for photogrammetry VS. \$300+/acre for ground survey
- Be very liberal in request limits
 - Get everything you need with first request

- When anticipating the use of aerial survey, for scheduling purposes, remember there are 2 flight seasons. The first is in Mid-March and the second is from Late-September to Late-October.
 - Reason is tied to a preferred sun angle of 30 degrees, which limits hot spots from developing in the aerial photographs.
 - Also limits the amount of ground vegetation
- Bryce usually sends out reminder in advance of seasons, but keep seasons in mind.
- There is no such thing as a 100% aerial survey, there is still always going to be some level of traditional ground survey (obstructed areas, culverts & drainage features, x-section checks)
- The cost for aerial survey is estimated around \$29/acre and the ground survey ranges from \$300 to \$10,000 acre

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so be very liberal in the request survey limits

Survey Request Form

-Aerial Survey Reminders (cont.)

- Does the project match the survey method
 - i.e., several mile Rural Reconstruct or Slope Flattening in open terrain good candidate
 - Ask, Bryce is always happy to help
- More accurate aerial survey can be obtained
 - lower flight path
- The key to ensuring delivery of a quality survey is effective communication. Survey can't read your mind, but they can read your request.

- There are types of projects & locations that are ideal candidates for aerial survey.
- The absolute best resource to determine if a project is a good fit for aerial survey is Bryce in Survey. He is happy to help, so please contact him while you're preparing your request.
- There are types of projects that you may not be aware can use aerial survey, so if there is a doubt, ask.

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Survey Request Form

-Engineering Survey
-Hydraulics Survey

Hydraulics Survey ☒ Yes ☐ No

Note: See project Location Hydraulics Study Report (LHSR) for more information regarding hydraulic survey requirements. The additional information below supplements the standard Hydraulic survey requirements outlined in the Hydraulics Survey Chapter of the Survey Manual.

Contact Person:
KG Yahvah, Hydraulics

Drainage Survey ☒ Yes ☐ No

Detailed Survey required at As-Built Stations/State Plane Coordinates (N, E):
[Text Box]

Details:
[Text Box]

Bridge Survey ☒ Yes ☐ No

Detailed Survey required at As-Built Stations/State Plane Coordinates (N, E):
[Text Box]

Details:
[Text Box]

Irrigation Survey ☒ Yes ☐ No

Detailed Survey required at As-Built Stations/State Plane Coordinates (N, E):
[Text Box]

Details:
[Text Box]

- Now expanding some of the areas under the Hydraulics Survey section...
 - Drainage
 - Bridge
 - Irrigation...

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PRE-CONSTRUCTION CONFERENCE 2016

Survey Request Form

-Engineering Survey
-Hydraulics Survey (cont.)

Urban Survey ☒ Yes ☐ No

☐ **Supplemental DTM Mapping** (Strip map containing planimetric features, spot elevations, break lines, threshold elevs, width of corridor, etc. for use in Geopak. [See Hydraulics Survey Chapter of Survey Manual or LHSR for more information.](#))

Details:

Storm Drain Outfall/Locations: (See Location Hydraulics Study Report)

Details:

Standard Disclaimer: Not all portions required on a typical survey can be included in this document. Typical users of this form should use judgement in determining any additional or extraordinary information required to fulfill the intent of this document. The Survey Manual should be used in conjunction with work types, project types and this form to portray a complete survey.

- ...and Urban Surveys
- I really have no experience with filling out a Hydraulics Survey Request, but all types of requests share a common section, the Details Section...

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Survey Request Form

-Details Sections (All Requests)

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- Clearly convey what you believe is needed to **complete** the survey.
- Details section is where you “earn your pay”.
- This is where the conversation starts, don't let it be where it ends.
- Pick up the phone (Project Managers & Surveyors) 10 minutes can save a lot of time down the road.

- CLICK
- CLICK
- CLICK
- The Details Section should convey everything you believe is needed to complete the survey.
- Do not short yourself or survey in this area, this is where you earn you pay, spend the time on it that it deserves.
- After submitting a request if there is anything that needs clarification, PICK UP THE PHONE
- Remember effective communication means mutual understanding, don't just send an email and assume that's enough
- A 10 minute phone call can save a tremendous amount

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of time and prevent frustrations

[illegible]

- _____

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Survey Request Form

-Details & Location Map

- Nothing is better than a picture, expand/compliment written Details Section with photos, maps, etc.
- Use multiple resources: PFR/site photos, Google Maps/Street View, MDT GIS Maps, Pathweb, As-builts, etc...

- The location map should be used in conjunction with your details section to provide additional clarity. A combination of the two can really help ensuring you have effectively communicated your needs.
- This section doesn't need to be just a map
- We have a tremendous amount of resources at our disposal
- MDT GIS Maps, MDT Route Location Finder App can be found in the TIS Application section on our INTRANET page
- I will be sharing some examples of survey requests that combine the written section with additional photos and maps, but first I would like to ask a question...

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Question ?

- How often are we requesting additional pick-up survey on projects involving ADA design?

- So how often are additional pick-up surveys being requested on projects that involve ADA design?
- Or really for that matter, how often are we just “making due” with the survey we do receive on these projects.

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Remember...

- We need a solution more than we need to complain about the problem...

- With survey requests involving ADA design in mind, I have included an excellent example of a survey request provided by R.J. Snyder

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Survey Request Form

-Details & Location Map Example 1 – ADA Survey

Details:

Need all 4 corners surveyed at the intersections on 8th Ave (16th - 26th inclusive). See map. Please survey 6 sidewalk panels behind adjacent, existing ADA facilities. On sidewalk shots, take shots on all panel joint intersections. Additionally, take shots within the middle of the boulevard within the limits of the 6 sidewalk panels in addition to typical shots (TBC, FL, signs, etc). See attached diagram for visual aid. On all corner drop inlets, take 5 shots around the perimeter of the concrete isolation joint that surrounds the manhole. Please view attached pictures within the Location Maps for visual aid. If you have any questions, please contact RJ Snyder at 444-6229. Label shot description accurately.

Utility Survey (Locate all Utilities) ☒ Yes ☐ No

☒ Department Forces ☐ S.U.E. Forces

Township / Range:

T20N, R04E, S06; T20N, R04E, S05

Details:

Need all utilities picked up between back-of-sidewalk to back-of-sidewalk (asphalt included) throughout the project limits on 8th Ave N. and within survey limits taken on the corners. (See attached map)

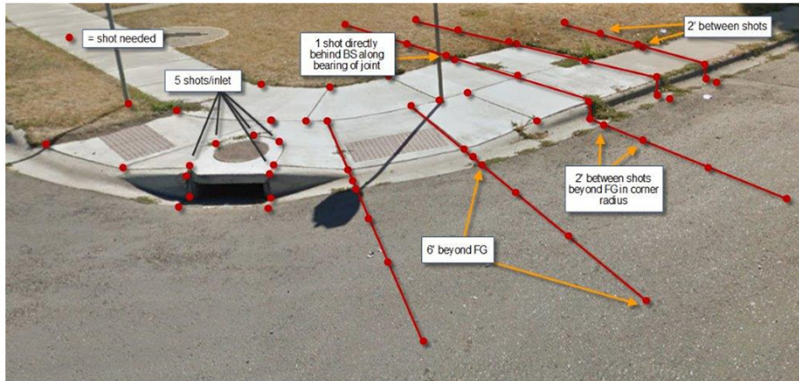


- I would like to read what R.J, included in his written request
- [CLICK]-Area Expands
- Read portion of request
- After hearing RJ's written Details Section I'm sure you agree it is clear & concise, but RJ wanted to ensure he effectively communicated his needs so he added some additional pictures.

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Survey Request Form

-Details & Location Map Example 1 – ADA Survey (cont.)

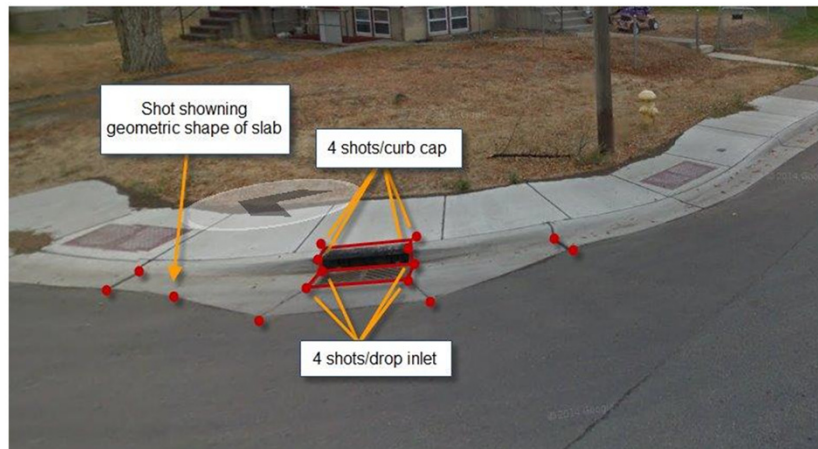


- Here we see requested shots on each sidewalk panel intersection
- Along panel lines @ the TBC, FL, FG
- There is also additional shots being requested in the radius 6' beyond the FG in 2' increments
- Extra shots are really needed in the radius, because the grades usually are getting altered the most at the ramps and we need to remove and warp the asphalt and curb accordingly

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Survey Request Form

-Details & Location Map Example 1 – ADA Survey (cont.)

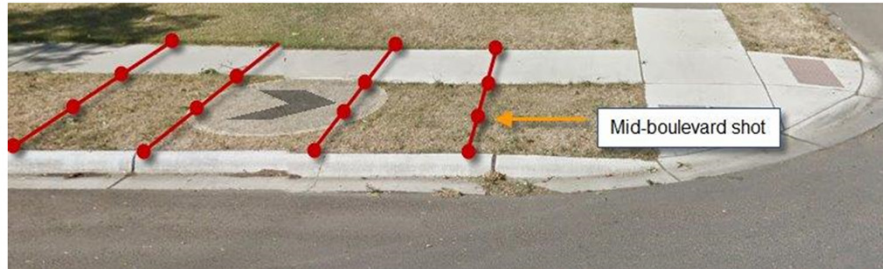


- More often than not, there is at least an attempt to preserve existing drainage features.
- So any drainage features like curb or drop inlets need to be fully defined to help determine if any adjustment is going to be necessary

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Survey Request Form

-Details & Location Map Example 1 – ADA Survey (cont.)



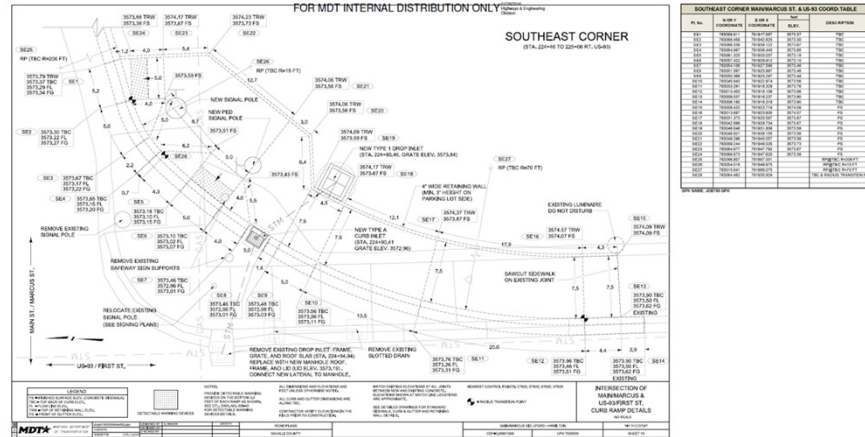
- Why does a designer need such a detailed survey for ADA elements?
- You have to go through the design process to determine governing constraints (curb flow lines, R/W, relative grades, etc...)

- Here we see midpoint shots in the boulevard, because there is always a possibility of a sidewalk being widened, or a corner being expanded to correct a landing or ramp
- There is also the possibility of being able to accommodate a pedestrian push button
- So why does a designer need such an intense survey?
- The reason is because you have to go through the design process to determine the controlling elements

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Survey Request Form

-ADA DETAIL EXAMPLE (From Road Design Plan Set)



- There is not a standard detail that can sufficiently convey what needs to be done for a proper ADA design.

- I also want to be very clear about this:
- HAVING A “COMPLIANT” DESIGN DOES NOT MEAN YOU HAVE A “GOOD” DESIGN
- This is also one of the very few types of project that is tied to a Federal Law
- Design Speeds, HZ or Vertical curves or really any of our controlling design criteria for Highways are not directly dictated by Federal Law
- There is no way a standard detail can be sufficiently convey a proper ADA design, this is especially true when we are going in and fixing existing facilities.
- Here is an example of the final produced plans for one corner [Expand on what was being done]

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Survey Request Form

-ADA Design

- Designers - What do you need to show in the plans to convey your design?
- Reality - Design are not constructed to perfectly match **designed** coordinates/elevations, you are trying to convey **relative** grades, grade breaks, radius points, PC's/PT's, lengths, and relationships between design elements.
- Surveyors – A good way to break down effective/open communication is to express this sentiment, "Do you really need all of this information?"

- So designers what do you need to show in your plans:
 - ADA Plans should not express design elements with minimum/maximum grades or widths
 - Short Answer – Everything
- I completely understand projects are not constructed perfectly to match our designs, but much like we can't know what controls the design before going through the process, we cant pre-determine when relative grades will be used
- As a construction surveyor I believed I could never have TOO much information
- Surveyors – " Do we really need all of this information?"
- YES
- We are asking for entire point clouds from lidar

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Survey Request Form

-Details & Location Map Example 2 – Pickup Survey

MDT Montana Department of Transportation
441 1st Ave SE
Page 1 of 3

Survey Request Form

Print Form

Field Survey (Ground Survey) ☒ Yes ☐ No

Contact Person (District Construction Engineer):

Alignment / Cross Sections:
JUN2014 JCB076 GPR / 4039001RDPV3001 PDF / 4039001RDPV300 DGN

Pickup Survey:
Please provide a pickup topo survey (including utilities in areas requested) and generate TIN models for the following areas:
- STA 98+07 to STA 109+00 (Rock Quarry & 200 ft before and after approaches)
- 150+00 ft LT of Mainline (Need detailed approach data and layout of internal road).
Mainline: CL, EOP, SHLO, etc.
- Only need to TOC of slope RT of Mainline.
- STA 150+00 to 171+00 (Approach last 2100 ft. of project, existing. TIN does not appear accurate in this area).
- 150+00 ft LT of Mainline.
- Clip to the RT of Mainline from RT of Mainline.
- Need detailed area around existing turnout at approx STA 153+00 LT, including under the OHPWR.
- 200 ft down existing approach @ STA 164+00.
Mainline: CL, EOP, SHLO, etc.
- Monitoring well located approx 6 ft from Control Point 607.

The current plan set is available on DMS under 4039001RDPV3001 PDF, and includes a Control Diagram as well as the proposed alignment, JUN2014, which is contained in JCB076 GPR also available on DMS. Please contact me with anything else you may need.

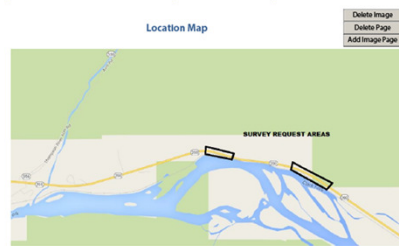
Details:

Utility Survey (Locate all Utilities) ☒ Yes ☐ No
☒ Department Forces ☐ S.U.E. Forces
Township / Range:
T 21 N, R 28 W

Details:
Please locate all utilities in area of pickup survey.

Hydraulic Survey ☐ Yes ☐ No
Wetlands Survey ☐ Yes ☐ No

Disclaimer: Not all portions required on a typical survey can be included in this document. Typical users of this form should use judgment in determining any additional or extraordinary information required to fill the intent of this document. The Survey Manual should be used in conjunction with work types, project types and this form to portray a complete survey.
Send completed Survey Request Form via email to all Contact Persons listed on the form, District Land Surveyor, Design Project Manager, and District Preconstruction Engineer.



- Overview map & detailed area maps (next slide) to help identify pickup survey.
- If project schedule allows, wait until you can identify all the areas that need pickup survey.
- Goal - minimize number of survey mobilizations.

- Here is an example of a pickup survey request
- The main goal, with respect to pickup surveys, is to identify all of the areas you might need additional information and then send out the request
- Here is an overview map I prepared...

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Survey Request Form

-Details & Location Map Example 2 - Pickup Survey (cont.)

Alignment / Cross Sections:

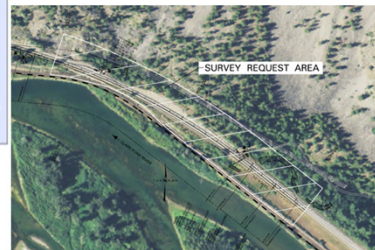
JUN2014 (JOB039.GPK) / 4039001RDPXS001.PDF (4039001RDYSF200.DGN)

Pickup Survey:

Please provide a pickup topo survey (including utilities in areas requested) and generate .TIN models for the following areas:

- STA 98+97 to STA 109+00 (Rock Quarry & 200 ft. before and after approaches).
- 150-200 ft. LT of Mainline (Need detailed approach data and layout of internal road).
- Mainline: CL, EOP, SHLDR, etc.
- Only need to TOE of slope RT of Mainline.
- STA 150+00 to 171+00 (Approx last 2100 ft. of project, existing .TIN does not appear accurate in this area).
- 150-200 ft. LT of Mainline.
- Up to the RR Trigger fence RT of Mainline.
- Need detailed area around existing turnout at approx STA 153+00 LT, including under the OHPWR.
- 200 ft. down existing approach @ STA 164+65
- Mainline: CL, EOP, SHLDR, etc.
- Monitoring well located approx 6 ft. from Control Point 607.

The current plan set is available on DMS under 4039001RDPRE001.PDF, and includes a Control Diagram as well as the proposed alignment, JUN2014, which is contained in JOB039.GPK also available on DMS. Please contact me with anything else you may need.

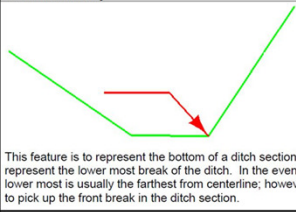


- And then I provided further detailed maps of each area at each specific locations
- [READ PICKUP REQUEST AREA]
- When requesting a pickup survey try to provide the surveyor information on all of you current design alignments and .GPK's
- Also sometimes providing a little justification or back story in the request or over the phone as to why your sending a crew back to a location can help alleviate any possible frustration
- In this case a rock quarry had been altering approaches and built an internal road that could have conflicted with the design

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Survey Request Form

-Speak the same language

BOD	Class	Sub-Class
	Road/RR	Road
Description	BOTTOM OF DITCH	
General Summary		
		
<p>This feature is to represent the bottom of a ditch section. The data points collected should represent the lower most break of the ditch. In the event the ditch is not a V-ditch, the lower most is usually the farthest from centerline; however, this does not alleviate the need to pick up the front break in the ditch section.</p>		
Attributes		
Chain	A String Field used to enter an alphanumeric value using the two character codes as the prefix and incremental numbering of two digits as the suffix (ie BD01).	
Type	A Menu Field used to select the Type of Ditch Section being collected. The values are Roadway, Drainage, Irrigation and other.	
COMMENT	A String Field used to enter general comments.	

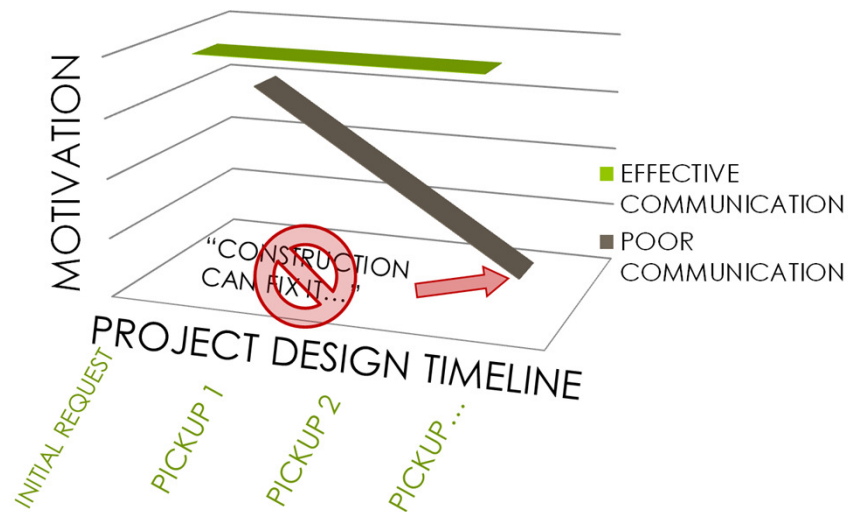
PRE-CONSTRUCTION CONFERENCE 2016

- Designers - use the same language in your request as the Survey Dept.
- Look at the feature codes used in DIMAP files.
- MDT Feature Code Reference Sheet & Feature Code Summary Guide (Survey Manuals)

- It is important to use clear/concise language in your request
- An excellent way to do this is to use the same language in your request that Survey uses
- Designers look at any of your DIMAPs or...
- On the INTRANET in the Survey Manuals look and the MDT Feature Code Reference Sheet and accompanying Summary Guide
- [CLICK]
- The summary guide gives the instructions of exactly what is being located for each feature

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BIG PICTURE



- So BIG PICTURE for any project, if we can maintain a high level of motivation throughout the design process we end up with a better product for the public in the end
- We also help build a stronger more enjoyable workplace
- An excellent way to maintain that motivation is through effective communication
- Remember this is MUTUAL UNDERSTANDING, not MUTUAL AGREEMENT there are many things we just don't have control of or input into
- [CLICK]
- From a Survey Request standpoint, we can get to a point through poor communication where we have demotivated the survey crew or the designer ...
- We can end up at a place where we say: [CLICK] "Construction can fix it"
- [CLICK]
- This is absolutely not where we want to end up

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Parting Thoughts...

- The survey is the most important piece of design information a designer will receive, no such thing as **too** much information.
- The Survey Request Form is only the initiation of communication, open dialog ensures a quality product is delivered.
- Project Design 101 – The more time you spend in the early stages the less likely we end up at “Construction can fix it”.

- So in conclusion I have a few parting thoughts...
- The survey is the most important piece of design information we will receive, there is no such thing as TOO much information
- The request form is only a form of documentation it does not guarantee communication
- Spend more time in the early stages of a project working through the difficulties, because the last place we want to end up is “Construction can fix it”

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Questions?